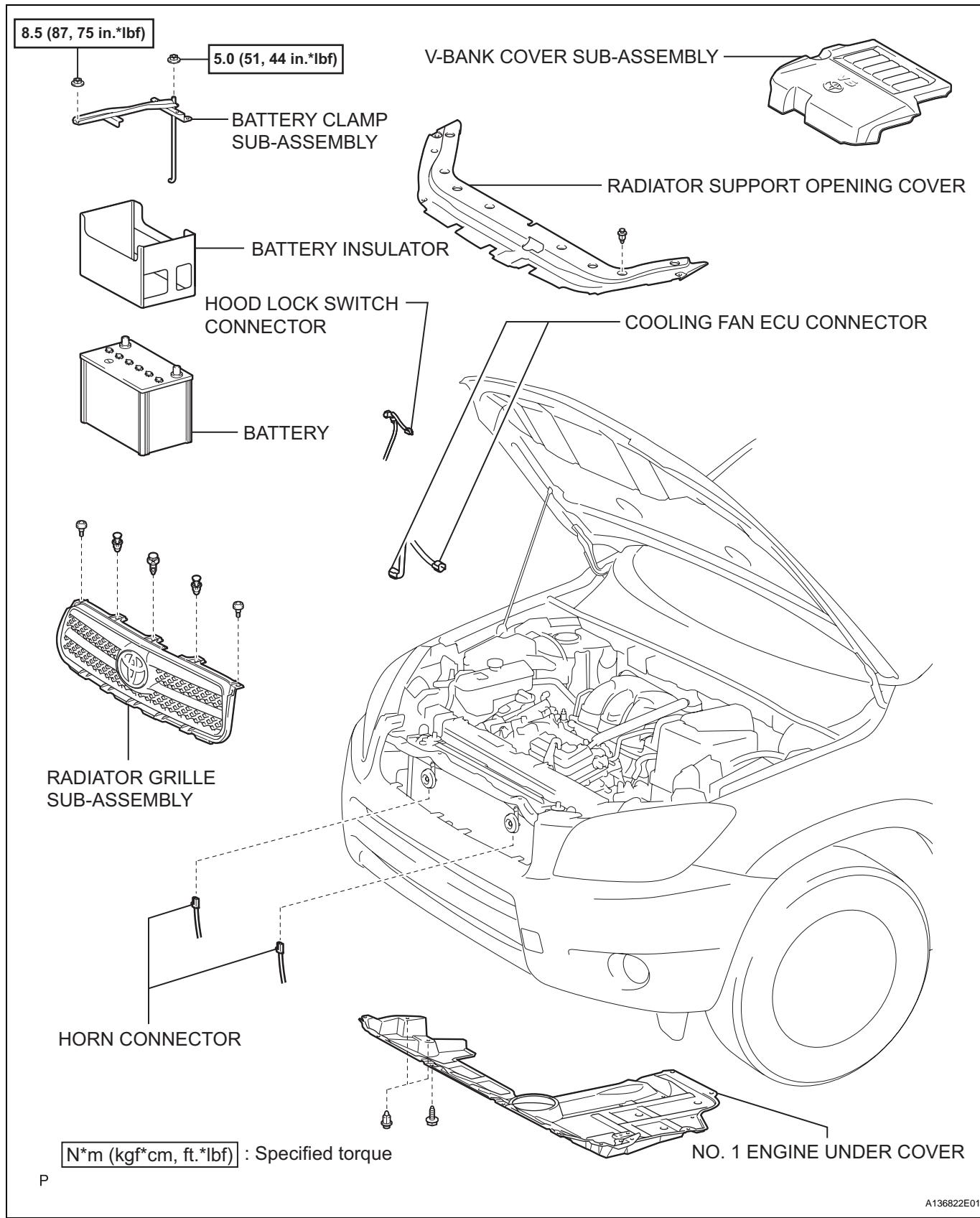
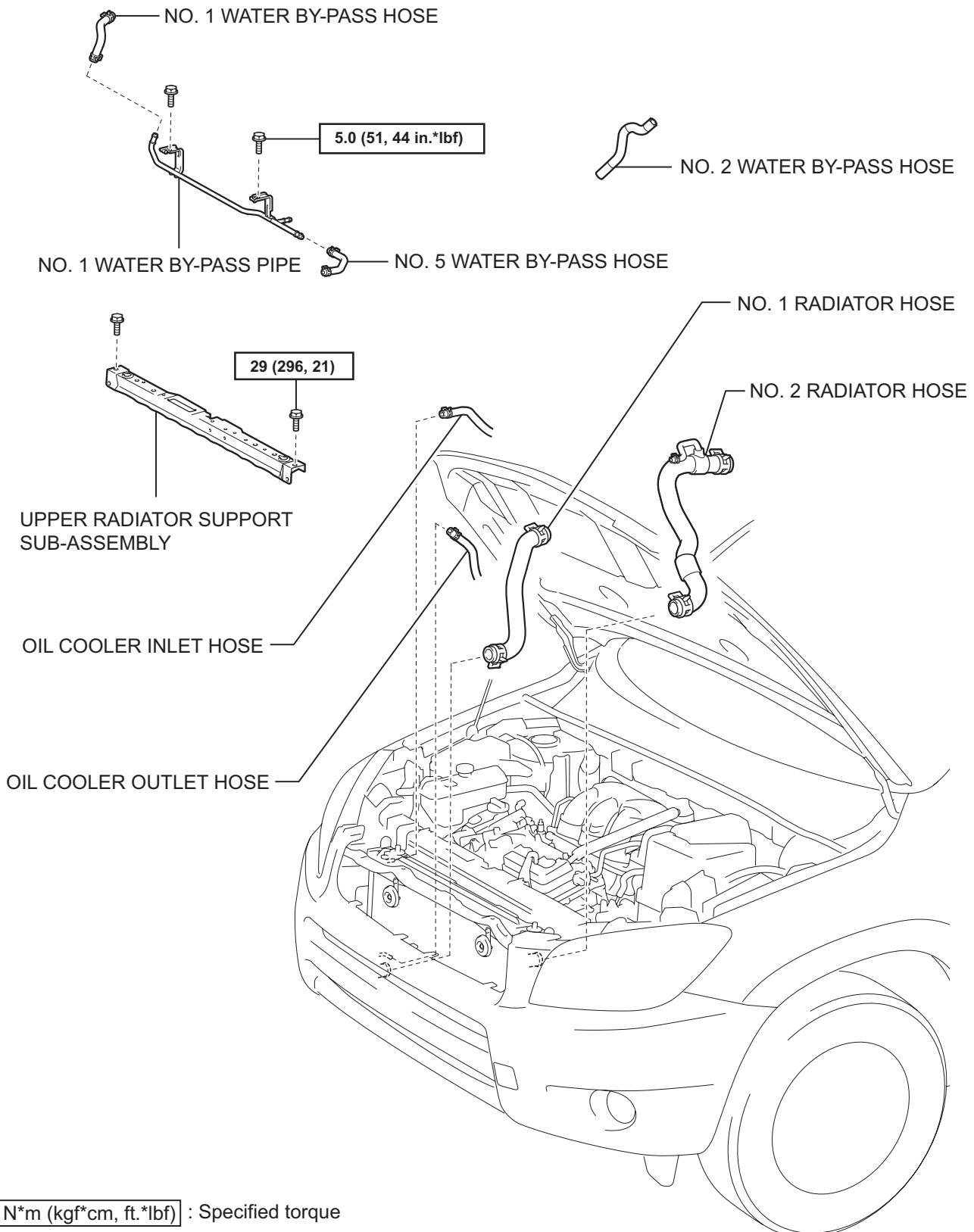


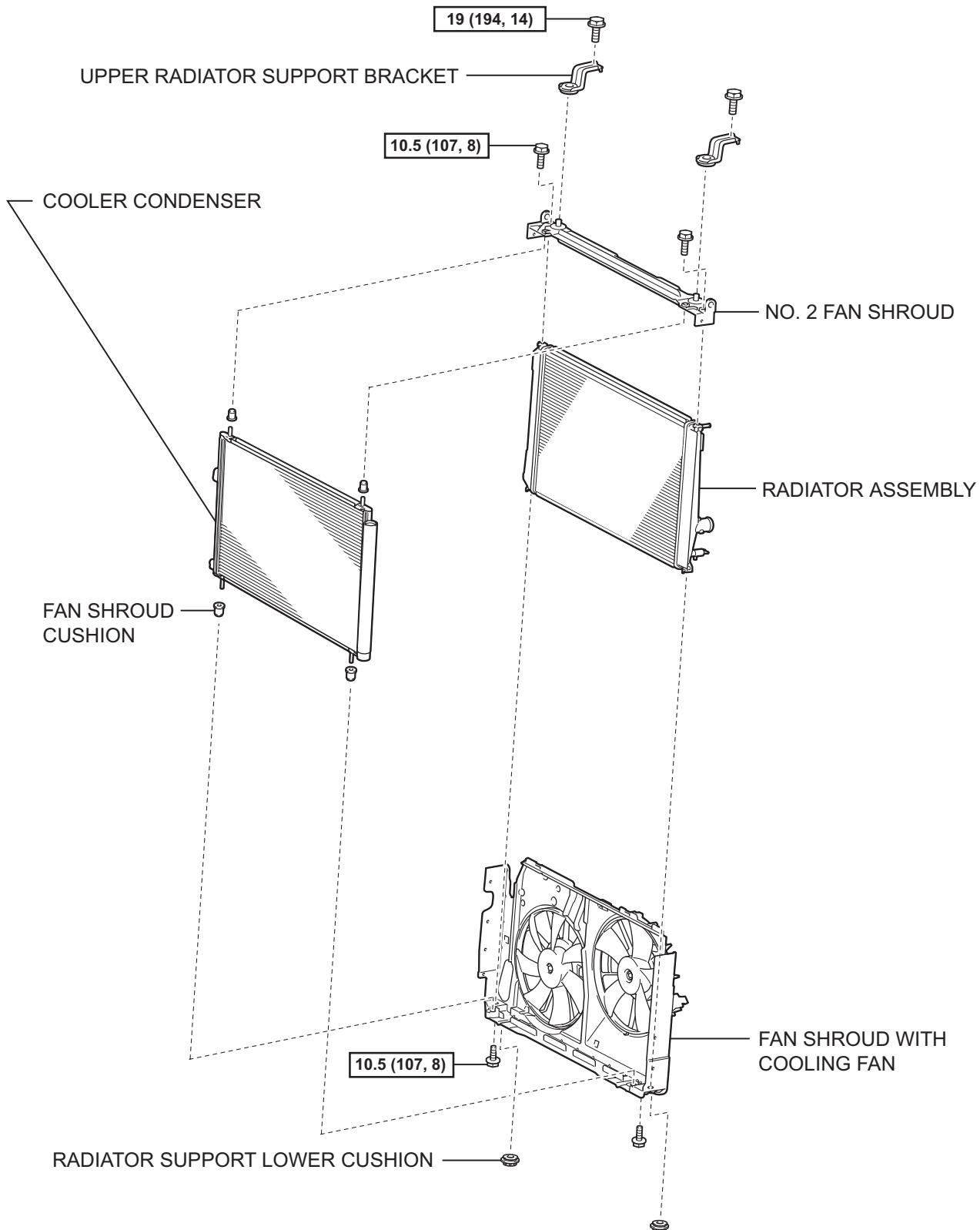
RADIATOR

COMPONENTS





N*m (kgf*cm, ft.*lbf) : Specified torque



N*m (kgf*cm, ft.*lbf) : Specified torque

ON-VEHICLE INSPECTION

1. CHECK RADIATOR RESERVOIR CAP SUB-ASSEMBLY

- (a) Measure the valve opening pressure.
- (1) If there are water stains or foreign matter on O-ring 1, clean it with water and finger scouring.
 - (2) Check that O-ring 1 is not deformed, cracked or swollen.
 - (3) Apply engine coolant to O-ring 1 and rubber packing 2 before using a radiator cap tester.
 - (4) When using the cap tester, tilt it more than 30°.
 - (5) Pump the cap tester several times, and check the maximum pressure*.

Pump speed:

1 pump per second

*: Even if the cap cannot maintain the maximum pressure, it is not a defect.

Judgment criterion

Item	Specified Condition
Standard value (for brand-new cap)	93.3 to 122.7 kPa (0.95 to 1.25 kgf/cm ² , 13.5 to 17.8 psi)
Minimum standard value (after using cap)	78.5 kPa (0.8 kgf/cm ² , 11.4 psi)

If the maximum pressure is less than the minimum standard value, replace the radiator reservoir cap sub-assembly.

ON-VEHICLE CLEANING

1. INSPECT RADIATOR ASSEMBLY

- (a) Check that the radiator and condenser are not blocked with leaves, dirt, or insects. Clean the hose connections.
If the fins are blocked, wash them with water or a steam cleaner.

NOTICE:

- If the distance between the steam cleaner and core is too close, the fins may be damaged.
- Keep the following injection distance.

Standard injection distance

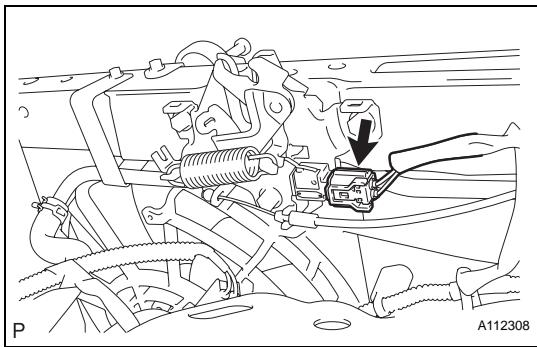
Injection Pressure	Specified Condition
2,942 to 4,903 kPa (30 to 50 kgf/cm ² , 427 to 711 psi)	300 mm (11.81 in.)
4,903 to 7,845 kPa (50 to 80 kgf/cm ² , 711 to 1,138 psi)	500 mm (19.69 in.)

- If the fins are bent, straighten them with a screwdriver or pliers.
- Never apply water directly onto the electronic components.

- (b) Dry the fins with compressed air.

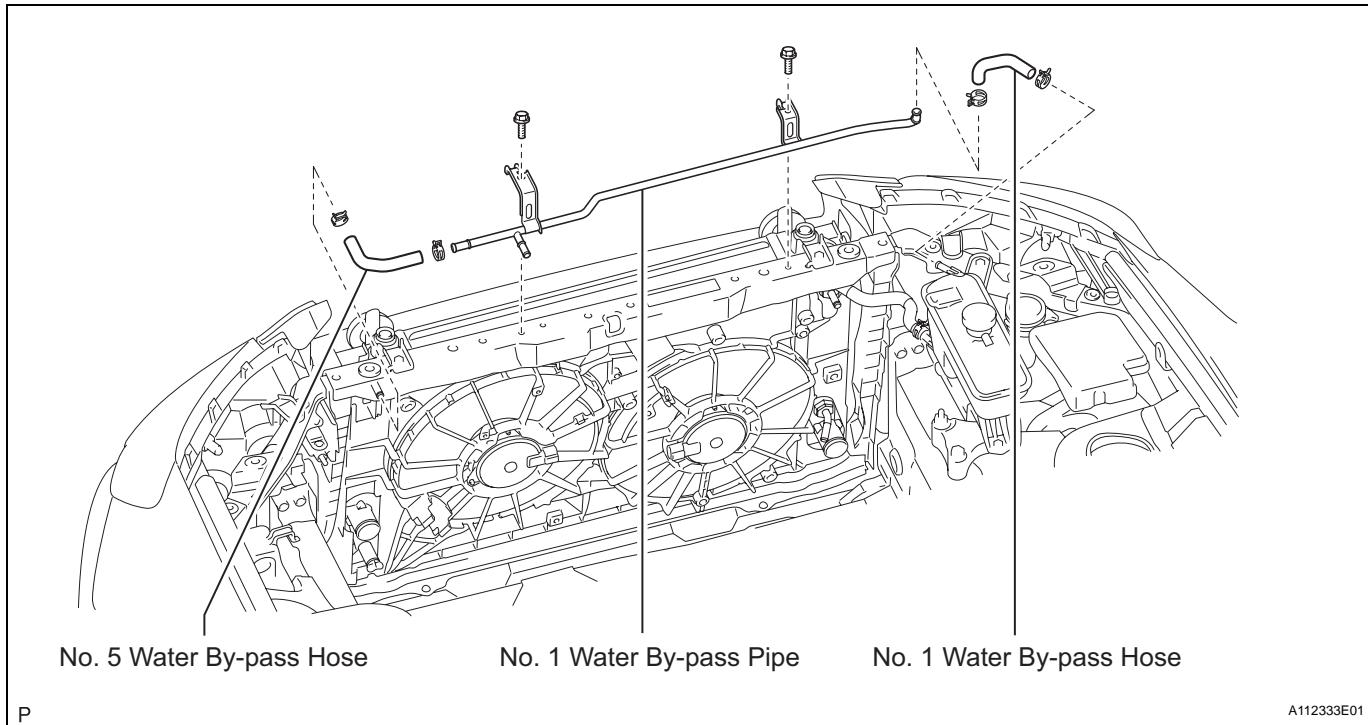
REMOVAL

1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL
CAUTION:
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to prevent airbag activation.
2. REMOVE BATTERY CLAMP SUB-ASSEMBLY (See page [ST-6](#))
3. REMOVE BATTERY INSULATOR
4. REMOVE BATTERY
5. REMOVE NO. 1 ENGINE UNDER COVER (See page [EM-21](#))
6. DRAIN ENGINE COOLANT (See page [CO-8](#))
7. REMOVE V-BANK COVER SUB-ASSEMBLY (See page [EM-21](#))
8. REMOVE RADIATOR SUPPORT OPENING COVER (See page [EM-22](#))
9. REMOVE RADIATOR GRILLE SUB-ASSEMBLY (See page [ET-6](#))
10. DISCONNECT HOOD LOCK SWITCH CONNECTOR
11. DISCONNECT NO. 1 WATER BY-PASS HOSE
 - (a) Disconnect the hose from the radiator reservoir.
12. DISCONNECT NO. 5 WATER BY-PASS HOSE
 - (a) Disconnect the hose from the radiator.
13. REMOVE NO. 1 WATER BY-PASS PIPE
 - (a) Disconnect the pipe from the No. 1 radiator hose.



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(b) Remove the 2 bolts and pipe.

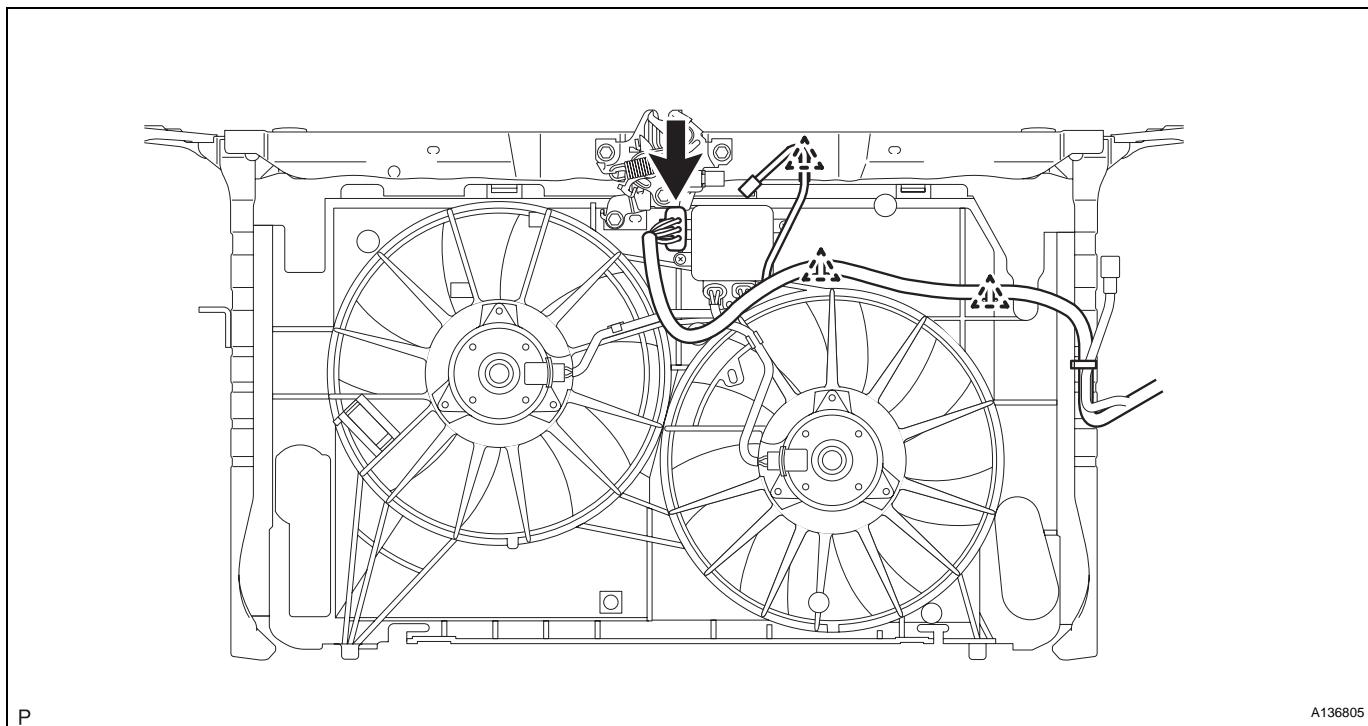


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14. DISCONNECT COOLING FAN ECU HARNESS (w/o Trailer Towing System)

- Disconnect the fan ECU connector.
- Detach the 3 harness clamps from the fan shroud and upper radiator support.



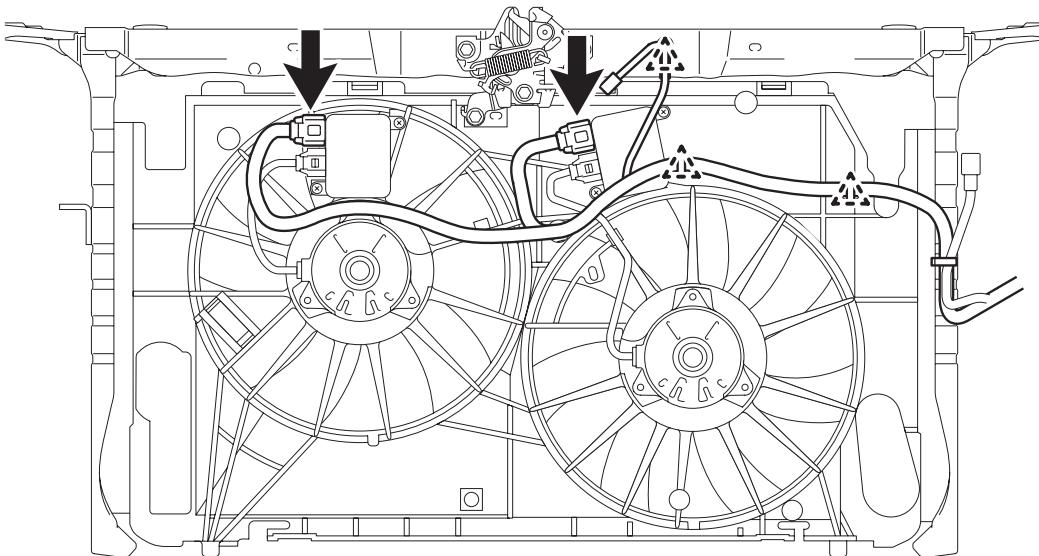
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15. DISCONNECT COOLING FAN ECU HARNESS (w/ Trailer Towing System)

- Disconnect the 2 fan ECU connectors.

- (b) Detach the 3 harness clamps from the fan shroud and upper radiator support.



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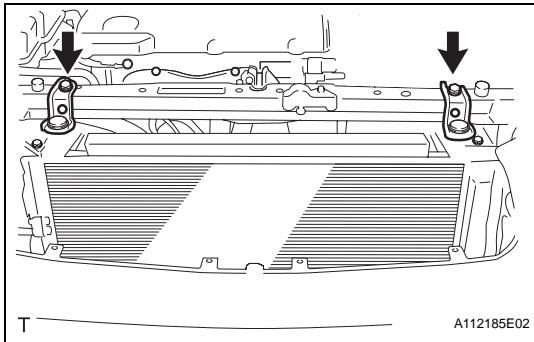
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16. DISCONNECT HORN CONNECTOR

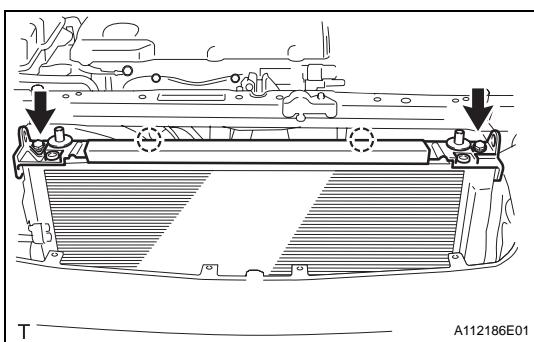
- (a) Disconnect the 2 horn connectors.

17. REMOVE UPPER RADIATOR SUPPORT BRACKET

- (a) Remove the 2 bolts and 2 upper radiator support brackets.



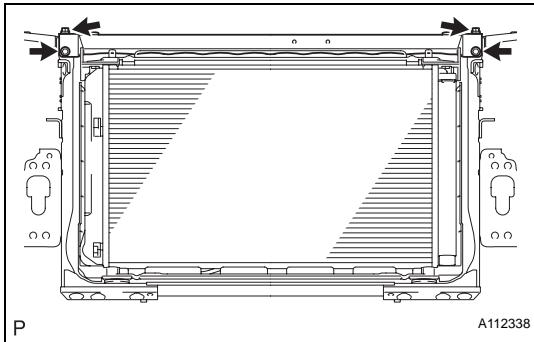
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18. REMOVE NO. 2 FAN SHROUD

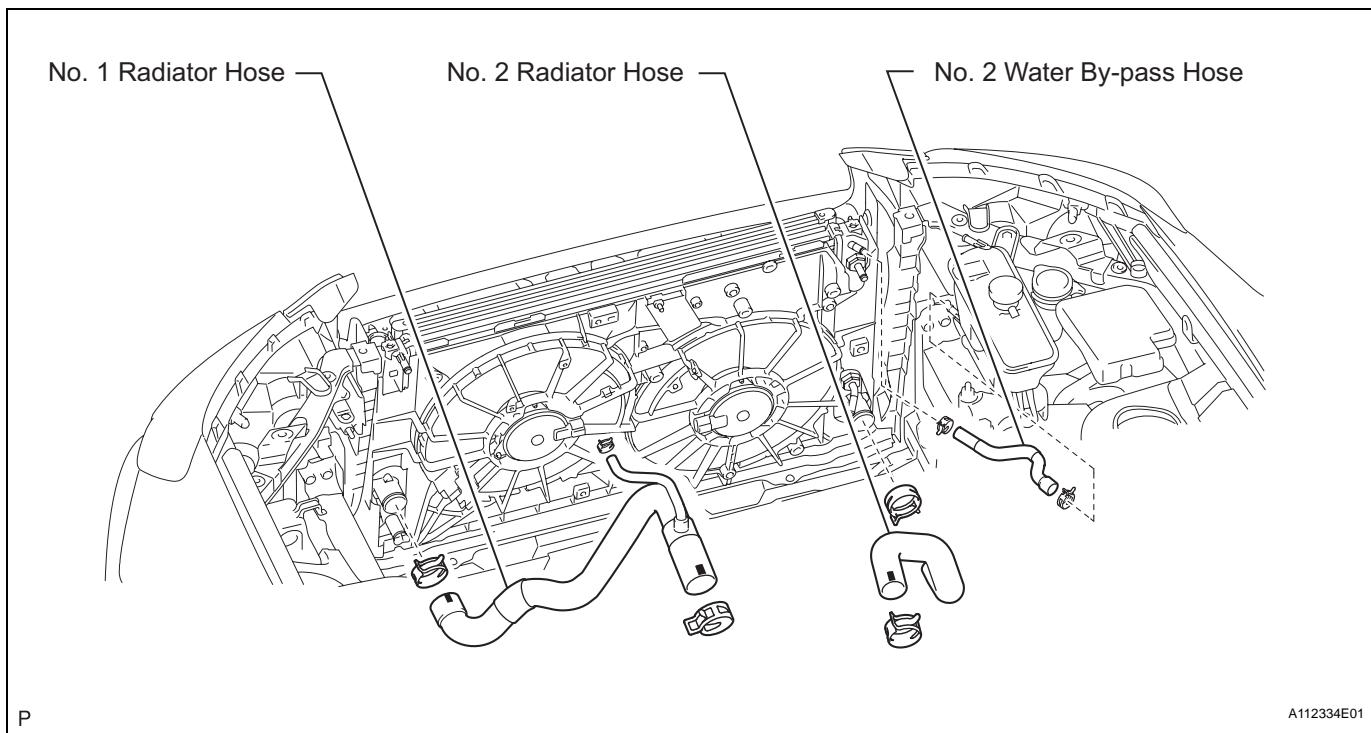
- (a) Remove the 2 bolts.
(b) Detach the 2 claws and No. 2 shroud.

**19. REMOVE UPPER RADIATOR SUPPORT SUB-ASSEMBLY**

- (a) Remove the 4 bolts and upper radiator support with hood lock.

20. DISCONNECT OIL COOLER INLET HOSE**21. DISCONNECT OIL COOLER OUTLET HOSE****22. DISCONNECT NO. 1 RADIATOR HOSE****23. DISCONNECT NO. 2 RADIATOR HOSE****24. DISCONNECT NO. 2 WATER BY-PASS HOSE**

- (a) Disconnect the by-pass hose from the radiator reservoir and radiator.



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25. REMOVE RADIATOR ASSEMBLY

- (a) Detach the cooler condenser from the radiator.

HINT:

After detaching the condenser, make sure that all 4 fan shroud cushions are present.

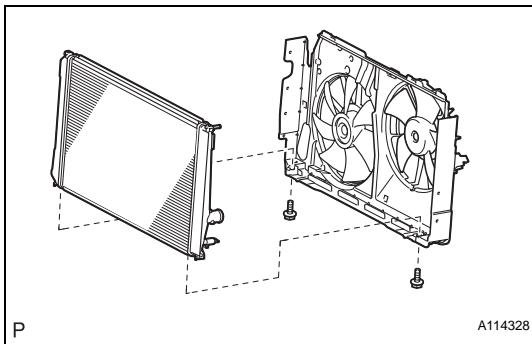
- (b) Remove the radiator with the 2 radiator support lower cushions.

HINT:

After detaching the radiator, make sure that all 2 radiator support lowers are present.

26. REMOVE FAN SHROUD WITH COOLING FAN

- (a) Remove the 2 bolts and fan shroud with cooling fan from the radiator.

**INSTALLATION****1. INSTALL FAN SHROUD WITH COOLING FAN**

- (a) Install the fan shroud with cooling fan to the radiator with the 2 bolts.

Torque: 10.5 N*m (107 kgf*cm, 8 ft.*lbf)

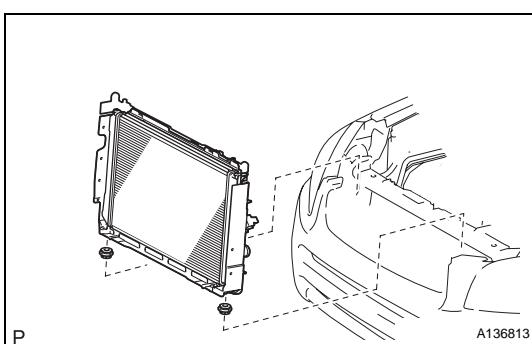
2. INSTALL RADIATOR ASSEMBLY

- (a) Install the 4 fan shroud cushions to the cooler condenser.

- (b) Set the cooler condenser into the fan shroud.

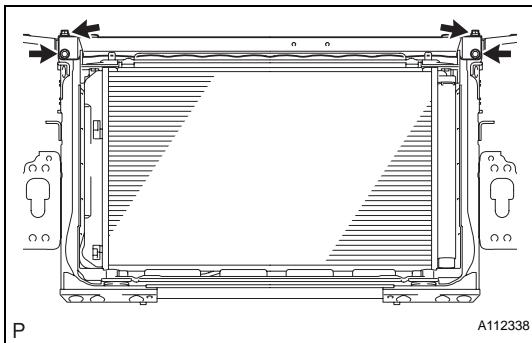
- (c) Install the 2 radiator support lower cushions to the fan shroud.

- (d) Install the radiator with cooler condenser and fan shroud to the radiator support lowers.

**3. INSTALL UPPER RADIATOR SUPPORT SUB-ASSEMBLY**

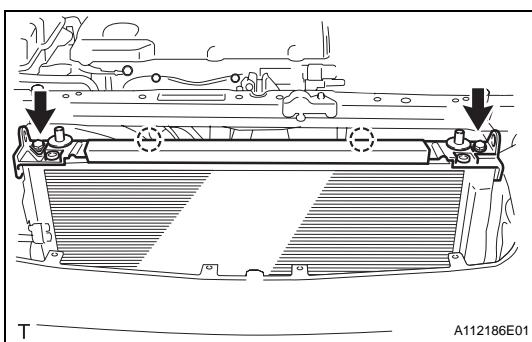
- (a) Install the upper radiator support with the 4 bolts.

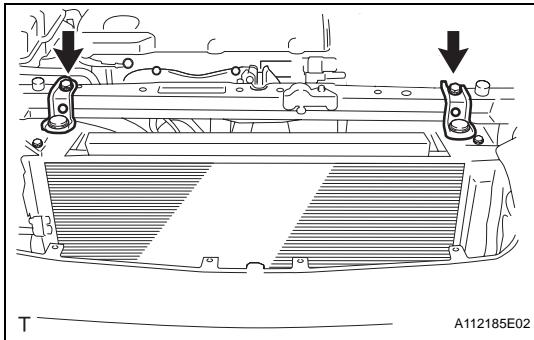
Torque: 29 N*m (296 kgf*cm, 21 ft.*lbf)

**4. INSTALL NO. 2 FAN SHROUD**

- (a) Attach the 2 claws to install the No. 2 fan shroud, and install the 2 bolts.

Torque: 10.5 N*m (107 kgf*cm, 8 ft.*lbf)





5. INSTALL UPPER RADIATOR SUPPORT BRACKET

- (a) Install the brackets with the 2 bolts.

Torque: 19 N*m (194 kgf*cm, 14 ft.*lbf)

6. CONNECT HORN CONNECTOR

- (a) Connect the 2 horn connectors.

7. CONNECT NO. 2 WATER BY-PASS HOSE

- (a) Connect the by-pass hose to the radiator and radiator reservoir.

HINT:

The direction of the hose clamp is indicated in the illustration.

8. CONNECT NO. 2 RADIATOR HOSE

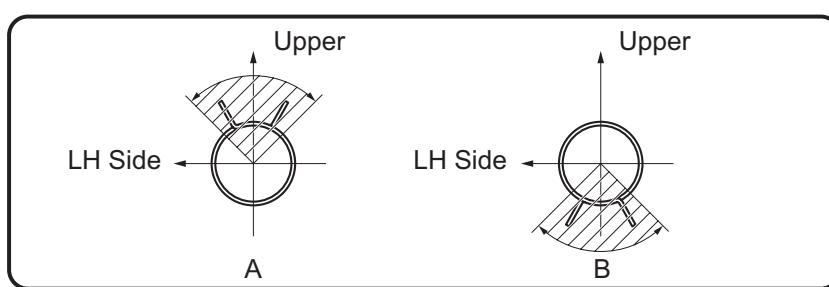
HINT:

The direction of the hose clamp is indicated in the illustration.

9. CONNECT NO. 1 RADIATOR HOSE

HINT:

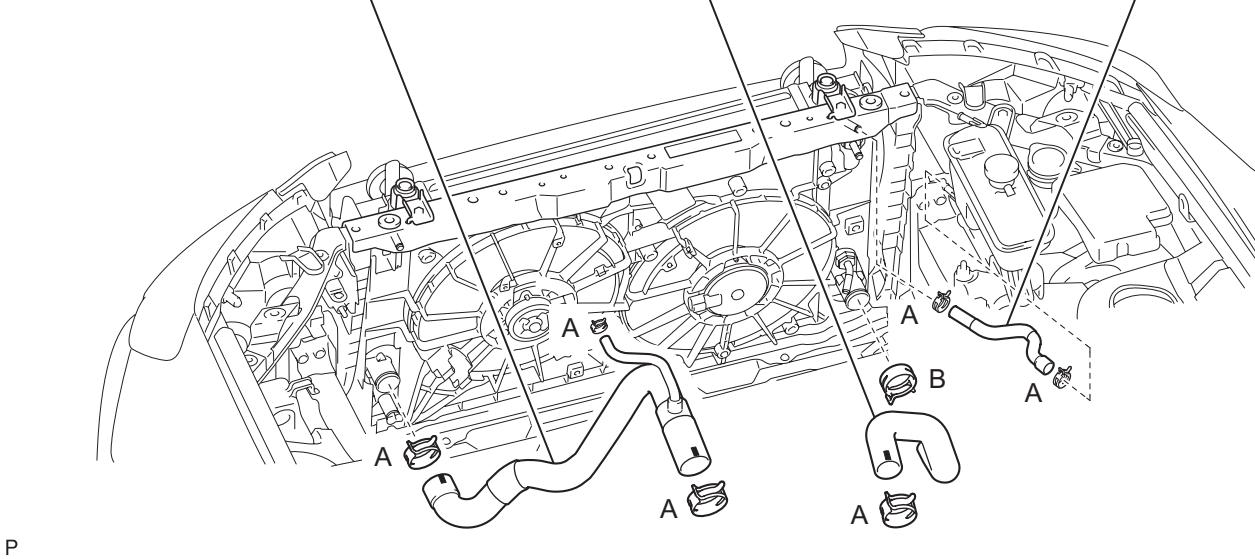
The direction of the hose clamp is indicated in the illustration.



No. 1 Radiator Hose

No. 2 Radiator Hose

No. 2 Water By-pass Hose



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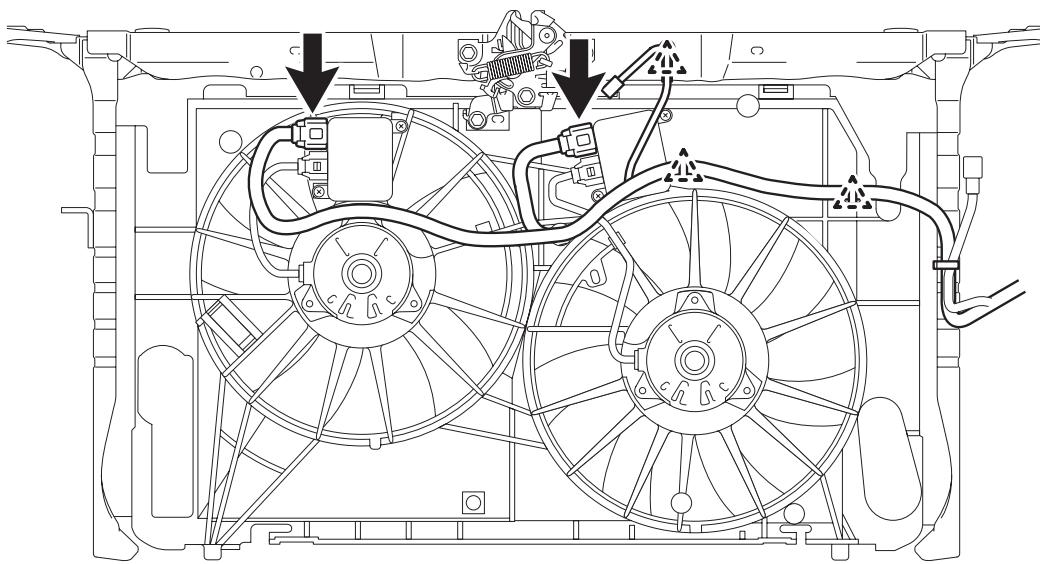
10. CONNECT OIL COOLER OUTLET HOSE

11. CONNECT OIL COOLER INLET HOSE

12. CONNECT COOLING FAN ECU HARNESS (w/ Trailer Towing System)

- (a) Attach the harness with the 3 clamps.

- (b) Connect the 2 fan ECU connectors.

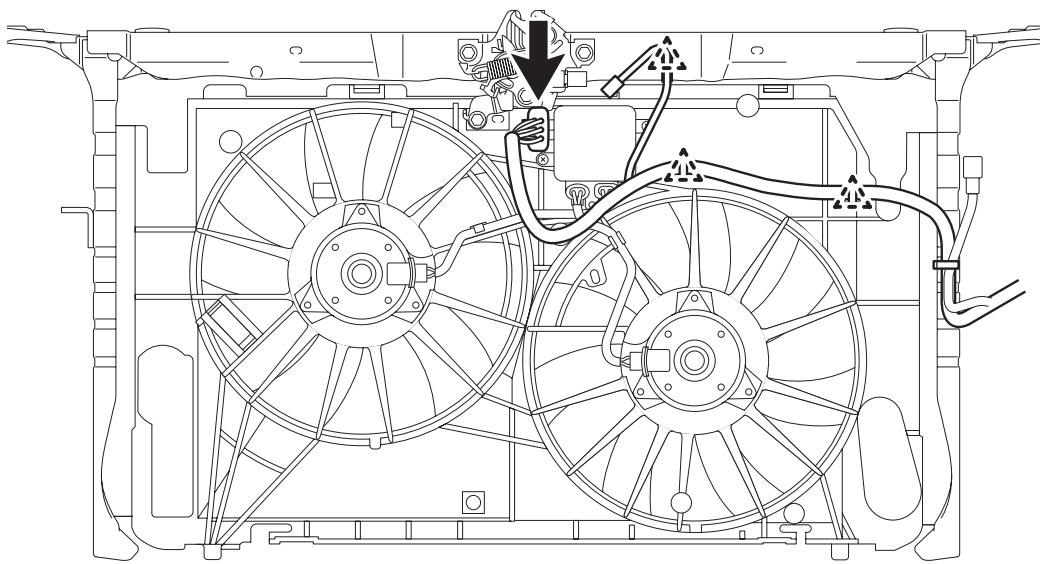


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13. CONNECT COOLING FAN ECU HARNESS (w/o Trailer Towing System)

- (a) Attach the harness with the 3 clamps.
(b) Connect the fan ECU connector.



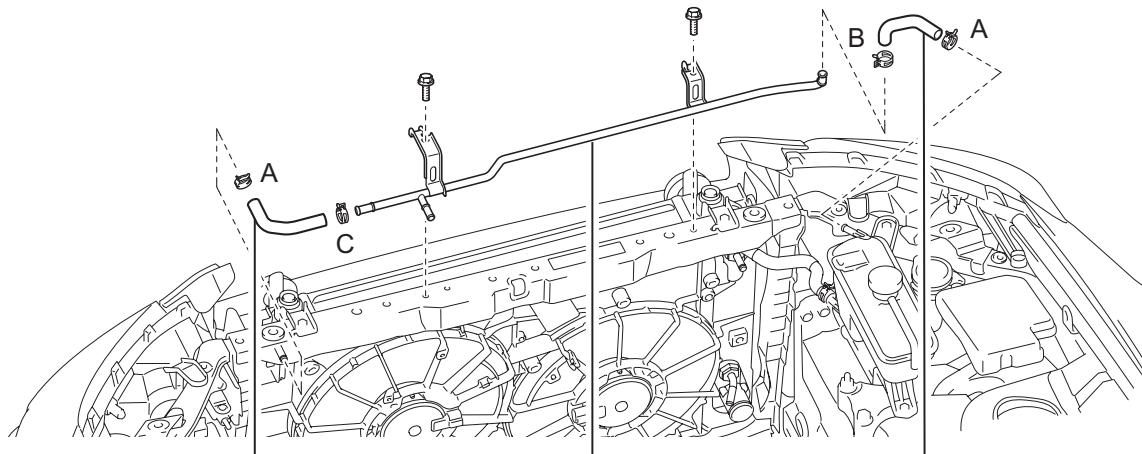
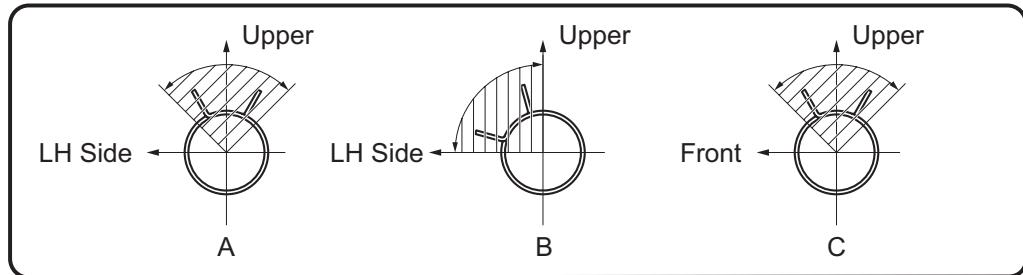
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14. INSTALL NO. 1 WATER BY-PASS PIPE

- (a) Install the by-pass pipe with the 2 bolts to the upper
radiator support.
Torque: 5.0 N*m (51 kgf*cm, 44 in.*lbf)
(b) Connect the No. 1 radiator hose to the pipe.

- 15. CONNECT NO. 5 WATER BY-PASS HOSE**
(a) Connect the by-pass hose to the radiator.
- 16. CONNECT NO. 1 WATER BY-PASS HOSE**
(a) Connect the by-pass hose to the radiator reservoir.

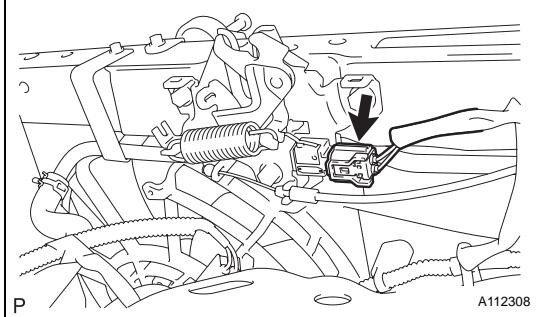


No. 5 Water By-pass Hose

No. 1 Water By-pass Pipe

No. 1 Water By-pass Hose

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17. CONNECT HOOD LOCK SWITCH CONNECTOR

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18. INSTALL RADIATOR GRILLE SUB-ASSEMBLY (See page [ET-10](#))**19. INSTALL BATTERY****20. INSTALL BATTERY INSULATOR****21. INSTALL BATTERY CLAMP SUB-ASSEMBLY (See page [ST-15](#))****22. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL****23. INSTALL RADIATOR SUPPORT OPENING COVER (See page [EM-42](#))****24. INSTALL V-BANK COVER SUB-ASSEMBLY (See page [EM-42](#))****25. ADD ENGINE COOLANT (See page [CO-8](#))****26. CHECK FOR ENGINE COOLANT LEAKS (See page [CO-1](#))**

27. INSTALL NO. 1 ENGINE UNDER COVER (See page
[EM-41](#))

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